

## REMARKS

Claims 1 through 3, 5 through 9, 11 through 19, 21 and 23 are in the application, with Claims 1, 3, 5, 7, 11, 17 and 19 having been amended, and with Claims 4, 10, 20 and 22 having been cancelled. Claims 1, 5, 7, 11 and 17 being the independent claims herein. No new matter has been added. Reconsideration and further examination are respectfully requested.

Claims 1, 2, 7, 8, 13 through 18 and 23 stand rejected over U.S. Patent No. 6,679,628 ("Breinlinger"). Reconsideration and withdrawal of the rejection are respectfully requested.

Claim 1, 7 and 17

Amended independent Claim 1 relates to a method. The method includes transmitting a first current through a diode, determining a first voltage across the diode, the first voltage associated with the first current, transmitting a second current through the diode, and determining a second voltage across the diode, the second voltage associated with the second current. The method further includes transmitting a third current through the diode, determining a third voltage across the diode, the third voltage associated with the third current, and determining a temperature based at least in part on the first voltage, the second voltage and the third voltage. A magnitude of the third current is substantially equal to a geometric mean of a magnitude of the first current and a magnitude of the second current. According to some embodiments of Claim 1, including but not limited to those described at pages 6 and 7 of the present specification, the features of amended independent Claim 1 provide more efficient and/or more accurate computation of temperature.

Breinlinger is not seen to disclose or to suggest the foregoing features of amended independent Claim 1. More particularly, Breinlinger is not seen to disclose or to suggest at least determining a temperature based at least in part on a first voltage, a second voltage and a third voltage, wherein a magnitude of a third current corresponding to the third voltage is substantially equal to a geometric mean of a magnitude of a first current corresponding to the first voltage, and a magnitude of a second current corresponding to the second voltage.

As noted in the Office Action, Breinlinger describes a method to determine a temperature based on a first voltage drop across a diode due to a first current and a second voltage drop

across the diode due to a second current. The Office Action alleges that it would have been obvious to incorporate transmitting a third current through the diode and determining a third voltage across the diode into Breinlinger because “transmitting the third current and measuring the third voltage does not require the system of Breinlinger to change the function”. Applicant respectfully notes that the fact that a reference can be modified in a certain way does not render the modification obvious unless the modification is suggested by the prior art. See M.P.E.P. §2143.01. Therefore, even if the system of Breinlinger is capable of transmitting the third current and measuring the third voltage, which is not conceded, this fact alone would not render the claimed third current obvious.

In this regard, Breinlinger contains no mention of a third current used to determine the temperature, or of how such a third current would be incorporated into such a determination. Breinlinger therefore also fails to disclose or to suggest that a magnitude of the third current is substantially equal to a geometric mean of a magnitude of the first current and a magnitude of the second current. In view of the deficiencies of Breinlinger, amended Claim 1 is believed to be allowable.

Amended independent Claims 7 and 17 relate, respectively, to an apparatus and a system roughly corresponding to the amended independent Claim 1. Claims 7 and 17 are therefore believed to be allowable for at least the foregoing reasons provided with respect to Claim 1.

#### Claims 5 and 11

Amended independent Claim 5 concerns a method including transmitting a first current through a diode, determining a first voltage across the diode, the first voltage associated with the first current, transmitting a second current through the diode, and determining a second voltage across the diode, the second voltage associated with the second current. The method further includes transmitting a third current through the diode, determining a third voltage across the diode, the third voltage associated with the third current, and determining a temperature based at least in part on  $(a/(d-bc))(v_1 - v_2 - b(v_1 + v_2 - 2v_3))$ , with  $a = q/kn$ ,  $b = (i_1 - i_2)/(i_1 + i_2 - 2i_3)$ ,  $c = \ln[(i_1 i_2)/i_3^2]$ , and  $d = \ln(i_1/i_2)$ .  $v_1$  corresponds to the first voltage,  $v_2$  corresponds to the second voltage,  $v_3$  corresponds to the third voltage,  $i_1$  corresponds to the first current,  $i_2$  corresponds to

the second current,  $i_3$  corresponds to the third current,  $k$  corresponds to Boltzmann's Constant,  $n$  corresponds to an ideality factor associated with the diode, and  $q$  corresponds to the charge of a electron.

Breinlinger is not seen to disclose or to suggest determining a temperature based at least in part on  $(a/(d-bc))(v_1 - v_2 - b(v_1 + v_2 - 2 v_3))$ , with  $a = q/kn$ ,  $b = (i_1 - i_2)/(i_1 + i_2 - 2 i_3)$ ,  $c = \ln[(i_1 i_2)/i_3^2]$ , and  $d = \ln(i_1/i_2)$ .  $v_1$  corresponds to the first voltage,  $v_2$  corresponds to the second voltage,  $v_3$  corresponds to the third voltage,  $i_1$  corresponds to the first current,  $i_2$  corresponds to the second current,  $i_3$  corresponds to the third current,  $k$  corresponds to Boltzmann's Constant,  $n$  corresponds to an ideality factor associated with the diode, and  $q$  corresponds to the charge of a electron. Claim 5 is therefore believed to be in condition for allowance. Amended independent Claim 11 concerns an apparatus roughly corresponding to Claim 5 and is therefore also believed to be allowable.

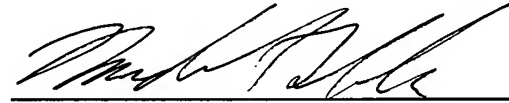
## CONCLUSION

The outstanding Office Action presents a number of characterizations regarding the applied reference, some of which are not directly addressed herein because they are not related to the rejections of the independent claims. Applicant does not necessarily agree with the characterizations and reserves the right to further discuss those characterizations.

For at least the reasons given above, it is submitted that the entire application is in condition for allowance and such action is respectfully requested at the Examiner's earliest convenience. Alternatively, if there remains any question regarding the present application or any of the cited references, or if the Examiner has any further suggestions for expediting allowance of the present application, the Examiner is cordially requested to contact the undersigned via telephone at (203) 972-0049.

Respectfully submitted,

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Date



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